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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/775,958

02/09/2004

Kwang-Ho Han

4591-374

1600

20575

7590

10/05/2006

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EXAMINER

HERRERA, JENNIFER

ART UNIT

PAPER NUMBER

3652

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/775,958	Applicant(s) HAN ET AL.	
	Examiner Jennifer P. Herrera	Art Unit 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-13 and 15-23 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 14 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12, 13, 15-17 and 21 is/are allowed.
- 6) ☒ Claim(s) 1-11, 18-20 and 22 is/are rejected.
- 7) ☒ Claim(s) 5 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The indicated allowability of claim 1 (which includes the subject matter of claim 7) is withdrawn in view of the newly discovered reference(s) to Morgan (U.S. 6,202,528 B1). Rejections based on the newly cited reference(s) follow.

Claim Rejections – 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1, 11, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Morgan.

- a. Regarding claims 1 and 18, Shin discloses an apparatus and the associated method, susceptor, 20, composed of a lift pin assembly, 12, column 4, line 18, a plurality of guiding blocks, 22, around the edge of the susceptor in column 4, lines 24–25, and a guiding block transfer unit, column 4, lines 36–49. Shin does not disclose the transfer rod, and attachment assembly. Morgan teaches the transfer rod and attachment assembly for the guiding blocks in

Figure 7, and explanation in column 4, lines 13–16. Therefore it would have been obvious to a person of ordinary skill in the art at the time of the invention to add Morgan's transfer rod and attachment to Shin's device to allow the guide block adjust depending of the size of substrate to be processed.

b. Regarding claim 11, Shin discloses the apparatus previously disclosed to be employed in a baking process during the fabricating of a semiconductor device in column 1, lines 16–19.

c. Regarding claim 18, Shin discloses the method of manufacturing a semiconductor device by:

- i. loading the substrate on the susceptor in column 5, lines 43–44,
- ii. providing a plurality of guiding blocks disposed around the edge of the susceptor in column 4, lines 24–26, and
- iii. positioning the substrate on the susceptor in column 4, lines 26–35.

4. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Cho. Shin discloses a susceptor, 20, composed of a lift pin assembly, 12, column 4, line 18, a plurality of guiding blocks, 22, around the edge of the susceptor in column 4, lines 24–25, and a guiding block transfer unit, column 4, lines 36–49.

Art Unit: 3652

Shin also discloses a plate, 20, and a spacer, 24. Shin does not disclose guiding lanes.

Cho discloses guiding lanes, 44, for the guiding blocks in column 4, lines 1–3 and 10–

12. Therefore it would have been obvious to a person having ordinary skill in the art at

the time the invention was made to add Cho's guiding lanes to Shin apparatus, to vary

the positions of the guiding blocks. Having the ability to change the distances of the

guiding blocks via guiding lanes would expand the function of the apparatus to carry

different substrates.

5. Claims 2–3, 6, 9, and 19–20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Morgan as applied to claims 1 and 18 above, and further in view of Cho.

d. Regarding claims 2, 3, and 19, Shin also discloses a plate, 20, and a spacer, 24. Shin and Morgan do not disclose guiding lanes. Cho discloses guiding lanes, 44, for the guiding blocks in column 4, lines 1–3 and 10–12.

Therefore it would have been obvious to a person having ordinary skill in the art

at the time the invention was made to add Cho's guiding lanes to Shin

apparatus, to vary the positions of the guiding blocks. Having the ability to

change the distances of the guiding blocks via guiding lanes would expand the

function of the apparatus to carry different substrates.

Art Unit: 3652

e. Regarding claims 6 and 20, Shin and Morgan do not disclose a plurality of positions for the guiding blocks. Cho discloses the guiding blocks, 40, moving a plurality of positions in column 4, lines 10–17. It would have been obvious to a person with ordinary skill in the art at the time the invention was made to add plural positions as taught by Cho to Shin's apparatus, to optimize the mobility of the guiding blocks.

f. Regarding claim 9, Shin and Morgan do not disclose guiding lanes and the ability to have a plurality of positions for the guiding blocks. Cho discloses the guiding lanes and plurality of positions in column 4, lines 1–3 and 10–17. Cho and Morgan do not disclose a testing unit. Shin discloses a testing unit in column 6, lines 60–62. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to add the guiding lanes and plural positions as taught by Cho to Shin's apparatus, to expand the diversity in correcting the position of the substrate. Having the mobility of the guiding blocks with a testing unit increases the function of the apparatus to secure the placement of the substrate.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Morgan in view of Cho as applied to claims 1–3 above, and further in view of

Perlov. Shin, Morgan, and Cho do not disclose a rotatable shaft, 102 & 110, a plurality of supporting rods, 112, and a plurality of transfer rods, 114. Perlov discloses the shaft, supporting rods, and transfer rods in column 3, lines 25–28.

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to add Perlov's rotating apparatus to Shin's device, to allow movement manipulation within the device to position the substrate.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Morgan in view of Cho in view of Perlov as applied to claim 4 above, and further in view of Horr. Shin as modified by Morgan, Cho and Perlov does not disclose a resilient element. Horr discloses a resilient element, 21, in column 3, lines 17–21. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to add Horr resilient element to Shin's apparatus, to tolerate any given movement by the guiding block.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Morgan in view of Cho as applied to claims 1–3 and 9 above, and further in view of Horr. Shin as modified by Morgan and Cho does not disclose a vacuum line, vacuum pump, and sensor. Horr discloses the vacuum pump, 28, vacuum line, 27, and sensor, 17, in column 3 lines 28–33 and lines 62–66, and column 4, lines 15–17.

Art Unit: 3652

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to add a vacuum pump, line and sensor as taught by Horr to Shin's apparatus as the testing unit. Having a vacuum testing unit would allow the user to have an accurate reading of the position of the substrate.

Response to Amendment

9. The amendments filed on September 14, 2006 to the claims and specification have been entered into the record.

Allowable Subject Matter

10. Claims 12-17 and 21 are allowed.

11. Claims 5 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

12. Applicant's arguments with respect to claims 1 and 18 have been considered but are moot in view of the new ground(s) of rejection.

13. Applicant's arguments, see page 8 and 9, filed September 14, 2006, with respect to claim 12 and any claims dependent therefrom have been fully considered and are persuasive. The claims 12-17 of rejections have been withdrawn.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer P. Herrera whose telephone number is (571) 272-6269. The examiner can normally be reached on 0830-1700 hrs Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on (571) 272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JPH/
9/21/06


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